**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

July 19, 2002

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director
**FROM:** W. White, Pantex Site Representative
**SUBJECT:** Pantex Plant Activity Report for Week Ending July 19, 2002

**DNFSB Activity Summary:** W. White was on site all week. Board staff members T. Dwyer and A. Hadjian were on site Tuesday and Wednesday to discuss Building 12-64.

**Building 12-64 Seismic Evaluation:** On Tuesday and Wednesday, a meeting occurred at the Pantex Plant to discuss the dynamic response of Building 12-64 under Performance Category (PC)-4 criteria. NNSA is pursuing a project to upgrade the Building 12-64 structure and re-authorize its use as a nuclear explosive area. The meeting included representatives from the Board' s staff; NNSA headquarters; NNSA Albuquerque; OASO; BWXT; ABS Consulting, Incorporated; Degenkolb Engineers; and DRD Technology Corporation.

During the meeting, the Board's staff raised questions regarding the initial seismic analysis developed for BWXT. The analysis was conducted using incorrect boundary conditions, and it appeared that several other input parameters had not been optimally selected. In addition, a recently developed finite element model of the Building 12-64 structure was presented. While a commendable start, the Board's staff noted shortfalls in the analysis that prevented drawing useful conclusions regarding the seismic capacity of Building 12-64. By the end of the meeting, NNSA Headquarters, OASO, and BWXT personnel acknowledged that their initial conclusion (i.e., the available data demonstrated that the Building 12-64 roof structure would neither collapse nor delaminate) may have been premature.

NNSA personnel indicated that Pantex Plant personnel would be directed to decide whether additional, more detailed modeling of the structure should be conducted, or whether BWXT should assume the failure scenario must be addressed through an engineered solution and proceed to developing potential options. [II.A]

**W62 Occurrence:** On Tuesday, a W62 subassembly fell during a lift from a vacuum holding fixture. Technicians were lifting the subassembly for the second time following the second failure of the lifting fixture to properly mate with the vacuum holding fixture. During the lift, parts of the subassembly came apart unexpectedly. This occurred before a safety net had been installed under the subassembly. The subassembly then dropped a few inches onto the vacuum holding fixture. Technicians secured the subassembly and conducted a manual lift to place it on a nearby, padded table. Radiation safety personnel surveyed the technicians and the subassembly and detected no contamination. The subassembly was damaged.

BWXT management suspended all operations involving mechanical lifting fixtures and vacuum holding fixtures. A subsequent evaluation determined that the likely cause of the event was the unexpected failure of the subassembly, and BWXT management allowed resumption of suspended operations. On Wednesday, personnel photographed the subassembly and the scene of the occurrence. On Thursday, BWXT technicians bagged the subassembly and moved it to a more stable location within the facility. BWXT personnel are also evaluating the W62 HAR to determine whether the existing analysis adequately covered the reversal of the failed lift. BWXT and OASO may wish to examine whether appropriate analysis was conducted prior to attempting the lift a second time without a complete understanding of why the lift had failed the first time.

The W62 Nuclear Explosive Safety Study expires on August 7, 2002. The remaining W62 nuclear explosive package must be disassembled prior to that date, unless NNSA grants an extension to the study. Other than units already in process, no more disassembly and inspection work will be conducted on the W62 program until after enhanced, seamless-safety tooling is place. The failed lift has been eliminated in the new, seamless-safety process. [II.A]